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BAKER BOTTS L.L.P.			CLARK, CHRISTOPHER JAY			
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/597,128	MENKE, PETER	
	<b>Examiner</b>	<b>Art Unit</b>	
	CHRISTOPHER J. CLARK	2836	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 03 April 2008.

2a) This action is **FINAL**.                    2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-20 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1-20 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____ .
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)	5) <input type="checkbox"/> Notice of Informal Patent Application
Paper No(s)/Mail Date _____ .	6) <input type="checkbox"/> Other: _____ .

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments filed April 3, 2008 have been fully considered but they are not persuasive.
2. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., that the optical waveguide is arranged such that the ignition light exits transversely into a space defined between said electrodes with respect to the electrical field that is produced by said opposite electrodes) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). The relevant claimed limitation merely states that "the optical waveguide is arranged such that the ignition light which emerges from the optical waveguide enters the area, which is bounded by the electrodes". Lines 20-30 of Column 3 of Grothaus teach that light is directed onto the apertures of the cathode. One skilled in the art would realize that the light delivered to the apertures would make its way into the space defined by the electrodes. Evidence of this fact is taught by Gundersen (4,890,040) who teaches a similar optically trigger back-lighted pseudospark switch. Gundersen teaches the light directed from a optical fiber waveguide cable is directed towards the aperture of the cathode, however, light does make its way into the space between the electrodes and even to the anode on the opposite side (Column 5 Lines 12-15).
3. Once again, in response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e.,

where the ignited spark gap is conducted in an arc mode) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Grothaus does teach a gap (Column 4 Lines 13-15) region.

4. In regards to the arguments concerning Claim 15, the applicant argues that the pseudospark switch of Grothaus cannot be used in the high voltage three-phase electrical power supply as taught by the AAPA because the pseudospark switch of Grothaus requires a DC power supply. The power supply of the AAPA is a three-phase DC high power supply system (Page 2 Paragraph 3 Lines 5-7) which one skilled in the art would correspond to the high voltage power supply (14, Column 2 Lines 60-63) as discussed by Grothaus.

5. The previous rejection is maintained.

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 4-6, 8, and 11-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Grothaus et al (U. S. Patent 5,399,941).

3. In re Claim 1, Grothaus teaches an overvoltage protection comprising:

- A spark gap (10) which has mutually opposite electrodes (24 and 26) that define a space (as seen in Figure 2)

- A light source (18) for production of an ignition light as a function of initiation signals from a control unit (20)
- Wherein the ignition light is designed for direct ignition of the spark gap (Column 3 Lines 8-15), wherein the optical waveguide is arranged such that the ignition light which emerges from the optical waveguide enters the area, which is bound by the electrodes (as discussed above in the "Response to Arguments")
- An optical waveguide for carrying the ignition light to the spark gap (50)

4. In re Claim 4, Grothaus teaches optics for focusing of the ignition light (56, Column 4 Lines 30-35).

5. In re Claim 5, Grothaus teaches that the ignition light is guided on a surface of the electrode facing the opposite electrode (as seen in Figure 2).

6. In re Claim 6, Grothaus teaches that the free end of the optical waveguide remote from the light source is arranged in one electrode (Column 3 Lines 20-25).

7.

8. In re Claim 8, Grothaus teaches an overvoltage protection comprising:

- A spark gap (10) which has mutually opposite electrodes (24 and 26)
- A light source (18) for production of an ignition light as a function of initiation signals from a control unit (20)
- Wherein the ignition light is designed for direct ignition of the spark gap (Column 3 Lines 8-15)
- An optical waveguide for carrying the ignition light to the spark gap (50), wherein the optical waveguide is arranged such that the ignition light which emerges from the optical

waveguide enters the area, which is bound by the electrodes (as discussed above in the "Response to Arguments")

9. In re Claim 11, Grothaus teaches optics for focusing of the ignition light (56, Column 4 Lines 30-35).

10. In re Claim 12, Grothaus teaches that the ignition light is guided on a surface of the electrode facing the opposite electrode (as seen in Figure 2).

11. In re Claim 13, Grothaus teaches that the free end of the optical waveguide remote from the light source is arranged in one electrode (Column 3 Lines 20-25).

12.

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 2, 9, 15, and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grothaus in view of the Applicant Admitted Prior Art (AAPA).

3. In re Claim 2, the teaching of Grothaus has been discussed, but does not disclose that the electrodes are arranged on a platform which is designed to be electrically isolated, at a high-voltage potential, and provided for components to be mounted on, wherein the components can be connected to a high-voltage three-phase electrical power supply system, and wherein the light source is grounded.

4. The AAPA teaches that it is known in the art to provide a spark gap on a high voltage potential platform with high voltage three phase electrical power wherein the light source is grounded (Page 2 Paragraph 2 - Page 4 Paragraph 2).

5. Grothaus teaches that the light source is electrically isolated from the spark gap (Column 3 Lines 25-28) which would make it suitable for the practice as discussed in the AAPA.

6. It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the protection circuit of Grothaus in the power system as taught by the AAPA since it is possesses the necessary function of electrical isolation between light source control and spark gap.

7. In re Claim 9, the teaching of Grothaus has been discussed, but does not disclose that the electrodes are arranged on a platform which is designed to be electrically isolated, at a high-voltage potential, and provided for components to be mounted on, wherein the components can be connected to a high-voltage three-phase electrical power supply system, and wherein the light source is grounded.

8. The AAPA teaches that it is known in the art to provide a spark gap on a high voltage potential platform with high voltage three phase electrical power wherein the light source is grounded (Page 2 Paragraph 2 - Page 4 Paragraph 2).

9. Grothaus teaches that the light source is electrically isolated from the spark gap (Column 3 Lines 25-28) which would make it suitable for the practice as discussed in the AAPA.

10. It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the protection circuit of Grothaus in the power system as taught by

the AAPA since it is possesses the necessary function of electrical isolation between light source control and spark gap.

13. In re Claim 15, Grothaus teaches an overvoltage protection comprising:

- A spark gap (10) which has mutually opposite electrodes (24 and 26)
- A light source (18) for production of an ignition light as a function of initiation signals from a control unit (20)
- Wherein the ignition light is designed for direct ignition of the spark gap (Column 3 Lines 8-15)
- An optical waveguide for carrying the ignition light to the spark gap (50), wherein the optical waveguide is arranged such that the ignition light which emerges from the optical waveguide enters the area, which is bound by the electrodes (as discussed above in the "Response to Arguments")

11. The teaching of Grothaus has been discussed, but does not disclose that the electrodes are arranged on a platform which is designed to be electrically isolated, at a high-voltage potential, and provided for components to be mounted on, wherein the components can be connected to a high-voltage three-phase electrical power supply system, and wherein the light source is grounded.

12. The AAPA teaches that it is known in the art to provide a spark gap on a high voltage potential platform with high voltage three phase electrical power wherein the light source is grounded (Page 2 Paragraph 2 - Page 4 Paragraph 2).

13. Grothaus teaches that the light source is electrically isolated from the spark gap (Column 3 Lines 25-28) which would make it suitable for the practice as discussed in the AAPA.

14. It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the protection circuit of Grothaus in the power system as taught by the AAPA since it is possesses the necessary function of electrical isolation between light source control and spark gap.

15. In re Claim 17, Grothaus teaches optics for focusing of the ignition light (56, Column 4 Lines 30-35).

16. In re Claim 18, Grothaus teaches that the ignition light is guided on a surface of the electrode facing the opposite electrode (as seen in Figure 2).

17. In re Claim 19, Grothaus teaches that the free end of the optical waveguide remote from the light source is arranged in one electrode (Column 3 Lines 20-25).

18.

19. Claims 3 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grothaus in view of Hattori (U.S. Patent 7,154,922).

20. In re Claim 3, Grothaus teaches the light source being a UV laser (Column 3 Lines 8-10). Grothaus does not disclose the UV laser as specifically being a pump laser which is designed for optical pumping of a fiber laser with an active medium of the fiber laser being formed in one section of the optical waveguide.

21. Hattori teaches that it is known to implement a UV laser through the use of a fiber laser and an active medium (Column 24 Line 62-Column 25 Line 3).

22. It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the fiber laser and active medium as taught by Hattori in order to provide a specific embodiment of the UV laser as required by Grothaus.

23. Grothaus as modified by Hattori discloses the claimed invention except for the active medium being specifically formed in a section of the optical waveguide. It would have been obvious to one having ordinary skill in the art at the time the invention was made to implement the active medium in the waveguide in order to reduce any error that my result in installation, since it has been held that forming in one piece an article which has formerly been formed in two pieces and put together involves only routine skill in the art. *Howard v. Detroit Stove Works*, 150 U.S. 164 (1993).

24. In re Claim 10, Grothaus teaches the light source being a UV laser (Column 3 Lines 8-10). Grothaus does not disclose the UV laser as specifically being a pump laser which is designed for optical pumping of a fiber laser with an active medium of the fiber laser being formed in one section of the optical waveguide.

25. Hattori teaches that it is known to implement a UV laser through the use of a fiber laser and an active medium (Column 24 Line 62-Column 25 Line 3).

26. It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the fiber laser and active medium as taught by Hattori in order to provide a specific embodiment of the UV laser as required by Grothaus.

27. Grothaus as modified by Hattori discloses the claimed invention except for the active medium being specifically formed in a section of the optical waveguide. It would have been obvious to one having ordinary skill in the art at the time the invention was made to implement the active medium in the waveguide in order to reduce any error that my result in installation, since it has been held that forming in one piece an article which has formerly been formed in two

pieces and put together involves only routine skill in the art. *Howard v. Detroit Stove Works*, 150 U.S. 164 (1993).

28.

29. Claims 7 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grothaus in view of Jung et al (U.S. Patent 5,838,115).

30. In re Claim 7, Grothaus does not teach the spark gap being part of an ignition circuit for ignition of a main spark gap.

31. Jung teaches using the initiation of a spark gap as part of an ignition circuit for another spark gap (as seen in Figure 1).

32. It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the protection circuit with the spark gap and initiation light source circuitry of Grothaus into the ignition circuit of Jung in order to provide electrical isolation between the initiation control and the high voltage applied to the spark gaps.

33. In re Claim 14, Grothaus does not teach the spark gap being part of an ignition circuit for ignition of a main spark gap.

34. Jung teaches using the initiation of a spark gap as part of an ignition circuit for another spark gap (as seen in Figure 1).

35. It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the protection circuit with the spark gap and initiation light source circuitry of Grothaus into the ignition circuit of Jung in order to provide electrical isolation between the initiation control and the high voltage applied to the spark gaps.

36.

37. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Grothaus in view of the Applicant Admitted Prior Art (AAPA) as applied to Claim 15 above, and further in view of Hattori.

38. In re Claim 16, Grothaus teaches the light source being a UV laser (Column 3 Lines 8-10). Grothaus does not disclose the UV laser as specifically being a pump laser which is designed for optical pumping of a fiber laser with an active medium of the fiber laser being formed in one section of the optical waveguide.

39. Hattori teaches that it is known to implement a UV laser through the use of a fiber laser and an active medium (Column 24 Line 62-Column 25 Line 3).

40. It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the fiber laser and active medium as taught by Hattori in order to provide a specific embodiment of the UV laser as required by Grothaus.

41. Grothaus as modified by Hattori discloses the claimed invention except for the active medium being specifically formed in a section of the optical waveguide. It would have been obvious to one having ordinary skill in the art at the time the invention was made to implement the active medium in the waveguide in order to reduce any error that may result in installation, since it has been held that forming in one piece an article which has formerly been formed in two pieces and put together involves only routine skill in the art. *Howard v. Detroit Stove Works*, 150 U.S. 164 (1993).

42.

43. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Grothaus in view of the Applicant Admitted Prior Art (AAPA) as applied to Claim 15 above, and further in view of Jung.

44. In re Claim 20, Grothaus does not teach the spark gap being part of an ignition circuit for ignition of a main spark gap.

45. Jung teaches using the initiation of a spark gap as part of an ignition circuit for another spark gap (as seen in Figure 1).

46. It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the protection circuit with the spark gap and initiation light source circuitry of Grothaus into the ignition circuit of Jung in order to provide electrical isolation between the initiation control and the high voltage applied to the spark gaps.

### *Conclusion*

47. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISTOPHER J. CLARK whose telephone number is (571)270-1427. The examiner can normally be reached on M-F, 7:30-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Sherry can be reached on 571-272-2084. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael J Sherry/  
Supervisory Patent Examiner, Art Unit 2836

CJC  
7/22/2008